

On the Occurrence of the Deepsea Snake Fish, *Acanthocephala Limbata* (Cuvier) (Pisces: Cepolidae) Along Ratnagiri Coast, Maharashtra, India

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ABSTRACT

Occurrence of deepsea snake fishes, popularly known as band fishes, has not been recorded off the Ratnagiri coast of Maharashtra, India. Two specimens of these fishes were caught in trawl nets during regular fishing operations off this coast. Present paper analysed the morphometric and meristic characteristics of these specimens and they were identified taxonomically as *Acanthocephala limbata* (Valenciennes, 1835). These bright red fishes had dark blackish red oblong blotch on the dorsal between 9th and 14th rays, covering little above half the length of rays. The dorsal fin rays were 81 to 83; anal 91-93; Pectoral 19; pelvic 6, caudal fin rays 10. The gill rakers in the anteriormost gill were 52-55; gill filaments were 100.

Keywords: *Acanthocephala limbata*, band fishes, Cepolidae

1. INTRODUCTION

Deep sea snake fishes or band fishes belonging to Family: Cepolidae are common in the coastal waters of the eastern Atlantic, and widespread but rare in the central Indo-Pacific (Smith, 1949). Few of these have been recorded from Indian waters (Day, 1889). They are also distributed in Northwest Pacific; central Honshu, Japan southward to Taiwan and in Western Central Pacific (Smith-Vaniz, 2001). Occurrence of two specimens of these snake fishes in the trawl catches along the Ratnagiri coast of Maharashtra was an unusual phenomenon. These live specimens were kept in large glass aquarium and they were alive for 10-15 days. Then the specimens were preserved for further analysis.

2. MATERIALS AND METHODS

The deep sea snake fishes, (Plate 1) measuring 315 - 350 mm total length were collected from "Sakharter" landing center (17°1' to 17°3' North and longitude 73°16' to 73°18.8' East) at Ratnagiri in the month of November 2013. Since

Table 1

Morphometric measurements of *A. limbata* collected along Ratnagiri coast

Morphometric measurements recorded	Measurements (mm)
Total length	350
Standard length	320
Head length	50
Snout	11
Eye diameter (Same along both axes)	14
Eye (middle dark portion)	6
Maxillary length	21
Mandibular length	11
Snout to insertion dorsal	30
Length of dorsal	280
Snout to insertion pectoral	30
Length of pectoral	32
Snout to insertion pelvic	26
Length of pelvic	30
Snout to insertion anal	70
Length of anal	262
Length of caudal	45
Snout to vent	45
Snout to origin of lateral line	48
Gape	31
Depth of body in line with eye	30
Depth of body at dorsal insertion	40
Depth of body at pectoral insertion	27
Depth of body at pelvic insertion	43
Depth of body at anal insertion	39
Depth of body at mid-length	21
Depth of body at caudal insertion	14
Inter-orbital distance	4
Distance between eyes	10
Breadth of body at dorsal insertion	18
Breadth of body at mid-length	10
Width of gill opening	32

posterior margin of eye.

3.1.5. Opercle and Gills

Preopercle bluntly serrated with 2-3 flat spines. Gill openings are wide and semi circular.

3.1.6. Lateral line

Lateral line ascending from the upper corner of the gill opening to dorsal and running very close to its base up to caudal end. A single long dorsal originates on head.

3.1.7. Fins

Single dorsal fin originating on head and anal continuous with the caudal. Anal also long, commences opposite 8th dorsal ray. First dorsal and anal rays are short. Last soft ray of dorsal and anal fins connected to caudal fin by a membrane. Pectorals short, round, branched and originate beneath 4th or 5th dorsal ray.

3.1.8. Color

When fresh, colour of entire body fine orange red with golden yellow bands on sides. First 15 bands prominent and the last 4-5 bands faded. Body colour and bands faded gradually on preservation. Membranous portion of dorsal and anal are pinkish red. Dark blackish red oblong blotch is present on the dorsal between 9th and 14th rays, covering little above half the length of rays (Plate 2).

3.2. Meristic count

The dorsal fin rays were 81 to 83; anal 91-93; Pectoral 19; pelvic 6 and caudal fin rays were 10. The gill rakers in the anterior most gill were 52-55; gill filaments were 100. The morphological characteristics though showed some variations, but the specimens showed similarities in the meristic counts and the overall body colour and shape.

this fish was reported for the first time along the Ratnagiri coast, it was thought worthwhile to give a description and the morphometric measurements of the specimen (Table 1). These specimens were brought to the laboratory for recording morphometric measurements and related aspects. Standard measurements (Table 1) were taken and recorded.

3. RESULTS

3.1. External characteristics

The specimens were identified to species level using the FAO fish identification sheets (Fischer and Bianchi, 1994). Following morphological characters were recorded.

3.1.1. Body shape

Body elongate, laterally compressed, and gradually tapering to caudal. When fresh, body covered with a slimy substance.

3.1.2. Scales

Cycloid, minute, present on head and opercle.

3.1.3. Eyes

Eyes red, large, lateral in anterior half of head and protractile. Middle part of eye bright dark.

3.1.4. Mouth

Mouth large, strongly oblique, large and slightly protractile. Median palatine teeth present. Tongue is triangular in shape. Upper jaw is broad at end, without supramaxilla, and extending to below



Plate 1

Specimen of deepsea snake fish, *Acanthocephala limbata* found along Ratangiri coast



Plate 2

Dark blackish red oblong blotch on the dorsal of *A. limbata*

4. DISCUSSION

The family Cepolidae comprises of 23 species of fish in five genera, all of which are found in eastern Atlantic and wide spread in central Indo-Pacific. The species *Acanthocephala limbata* (Valenciennes, 1835) is a meso bathypelagic species distributed circumglobally. They are reported to be the commonest member of the Japanese cepolid fishes and are caught by trawl net from sandy or muddy bottoms. These fishes are used mainly for fish cake (Masuda, 1984). The adults are reported to pair and feed in loose groups; juveniles gather in small groups on deep sand slopes, usually in current-prone areas (Kuiter and Tono-zuka, 2001). They occur in mud bottoms 15-100 m deep (Allen and Erdmann, 2012). In the Indian waters, it has been recorded from Karwar (Kulkarni and Balasubramanian, 1978) and Malabar (Manojkumar and Pavithran, 2011) regions. These marine demersal fishes are found in the depth range 15 - 100 m of temperate zones. The specimens were identified as *Acanthocephala limbata* (Valenciennes, 1835). These live specimens were maintained in large glass aquaria for 15-20 days. Later they were preserved for further study.

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RELATED RESOURCES

1. <http://www.eol.org/pages/205400/overview>
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3. www.fishbase.org/Summary/speciesSummary.php?ID=9214&AT=Mok-chom-hong-gal-ch%26%2339%3Bi
4. www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=170286